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## C L A I M S

1. Apparatus for compacting empty plastic bottles, comprising a housing or frame for receiving the bottle, an element for fixing the bottle, a heating  
10 element surrounding part of the bottle and compressing means for compacting the softened bottle, characterized in that

- the housing or frame is constructed to receive the bottle (15) with its mouth part upwards;
- 15 - the heating element (6) or the part of the heating element (6) surrounding the bottle (15) is at most 60 mm high, and is arranged around the neck part of the bottle (15) in its starting position and
- the fixing element is a sealable plug (7) in the compressing means, to be fitted into the mouth of the bottle (15) and having an  
20 air channel (10).

2. Apparatus according to claim 1 characterized in that the cross section of the air channel (10) is adjustable.

25 3. Apparatus according to claim 1 characterized in that the compression means and the fixing element for the bottle (15) is a lid (5) moving on vertical guide bars (16).

30 4. Apparatus according to claim 3 characterized in that the lid (5) is compressing the bottle (15) towards the base of the housing, by its weight.

5. Apparatus according to claim 4 characterized in that the lid (5) is lifted and lowered by a spindle driven by an electric motor.

35 6. Apparatus according to claim 4 characterized in that the lid (5) is lifted by spring means (3).

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7. Apparatus according to any of claims 1-6 characterized in that in the air channel (10) of the plug (7) is provided with flow control means.

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8. Apparatus according to claim 7 characterized in that the flow control means is a valve.

9. Apparatus according to any of claims 1-8 characterized in that the diameter of least one section of the plug (7) is adjustable.

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10. Apparatus according to claim 9 characterized in that the section of adjustable diameter is an elastic rubber or plastic sleeve (9).

11. Apparatus according to any of claims 1-10 characterized in that the height of the heating element (6) is at most 60 mm.

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12. Apparatus according to any of claims 1-10 characterized in that the heating element (6) is arranged in a position to surround the bottle (15) in a height of at most 60 mm.

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13. Apparatus according to any of claims 1-12 characterized in that mechanical means for additional compacting are provided.

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14. Apparatus according to claim 13 characterized in that the additional mechanical compacting means is a gear rim (18) gearing in a gear rack (19) on the back side of the lid (5), wherein the gear rim (18) is provided with a manually operated lever.